

BROWNFIELDS CLEANUP COOPERATIVE AGREEMENT WORK PLAN

FOR
Former McClung Warehouses
401, 420, 501, 505, 512, 517, 519, 523, and 525 W. Jackson Avenue,
Knoxville, Tennessee 37902

June 30, 2016
[Approved
Via email
10/25/16
Revision
#N/A]

THE CITY OF KNOXVILLE
400 Main Street, Ste. 655
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Cooperative Agreement Number:
(provided by the U.S. Environmental Protection Agency)

**CLEANUP COOPERATIVE AGREEMENT WORK PLAN
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1. Budget Table for Work Plan Tasks
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Attachments on Compact Disc (CD) for Reference (to reduce paper consumption)

1. Analysis of Brownfield Cleanup Alternatives Former McClung Warehouses, Jackson Avenue, Knoxville, TN
2. Site Specific Quality Assurance Project Plan, Former McClung Warehouses Site
3. Report of Phase II ESA Former McClung Warehouses Site

1.1 PROJECT OVERVIEW

The Big Picture (*Targeted Community*)

Within the heart of Appalachia, in the valley between the Cumberland Mountains and the Great Smoky Mountains, lies the City of Knoxville, in the eastern portion of Tennessee. Knoxville's industrial growth in the late 1800's sprang from its railroad connections – it was the region's busiest depot for freight and passenger traffic, and transformed Knoxville from a small river town to one of the Southeast's major wholesaling centers. Dozens of large warehouses were built along Jackson Avenue and other streets adjacent to the railroad tracks in the city's downtown, where small-town merchants from all over east Tennessee would come to purchase goods and supplies to resell at rural general stores. Textile mills, foundries, and manufacturing provided employment to thousands.

In the early 1900's the economy was booming, and thriving neighborhoods grew up around the employment center of downtown. But the subsequent decline of the railroads in favor of other forms of shipping led to the collapse of the wholesale trade and distribution market. Knoxville's economy suffered during the Great Depression when construction fell 70%, and unemployment tripled. African Americans were hit hardest, as business owners began hiring whites for jobs traditionally held by black workers. The city's textile industry collapsed in the mid-1950's with the closure of several large textile mills, leaving thousands unemployed. Urban neighborhoods fell into ruin and the downtown area deteriorated. Nearly half of all houses in the city's older neighborhoods were considered substandard and in a critical state of decline. The Jackson Avenue Warehouse District in Knoxville's downtown and where our subject property is located saw its commercial properties degraded one by one, until all that was left was a street corridor empty of viable businesses and practically deserted.

A century ago, McClung's advertisements touted its 'three and a half acres of floor space.' Hundreds of people worked in these buildings, and thousands of customers visited every week. The large regional firm was known throughout several states, and buyers from hardware and appliance stores, mills, mines, some from hundreds of miles away would arrive, often on the Southern passenger train, and behold the latest American innovations. McClung carried lanterns, glassware, pots and pans, clocks, automobile tires, cash registers, bicycles, harmonicas, corn poppers, croquet sets, telephones, shotguns, footballs, ox shoes, baby jumpers, lawn mowers, butter churns, buggy whips, wheelbarrows, spectacles, rat traps. They sold phonographs and phonograph records.

For a time they even sold replacement bodies for Ford Model T's. 'Have a wreck, back around 1920, you don't need a body shop. Just order a new Ford body from McClung, 500 pounds' worth, for \$67'. The company sold mostly goods manufactured elsewhere, big brand-name products, but McClung manufactured some goods themselves, like stoves from their own local stove foundry. But McClung went out of business in 1970. The big buildings stood vacant for just a little while, before they were occupied by some similar businesses—practical businesses, appliance dealers and the like—but they were probably never fully occupied as they had been during the McClung era.

Quoted from Jack Neely's article, *A Hard Lesson: The Saga of the McClung Warehouses Comes to a Close. But What Did These Buildings Mean to Knoxville?* Metropulse, February 12, 2014.

The buildings on this property unfortunately sat vacant since 1993, with the exception of a wood workshop owned and operated by Mr. Gross, and were ultimately destroyed by two fires. The first fire

took place in 2007 and impacted properties at 501, 505, and 509 W. Jackson Ave. Three firefighters were injured during the response to this fire. The properties were entirely in private ownership at the time of the 2007 fire. Recognizing the blighting element of vacant and burned buildings, the city of Knoxville worked diligently to acquire some of the properties through purchase from a bankruptcy trustee in 2013. Despite efforts to secure the last two remaining buildings, trespassers were able to gain access and started a fire in February 2014 that caused the remaining structures to be structurally unsound and therefore demolished.

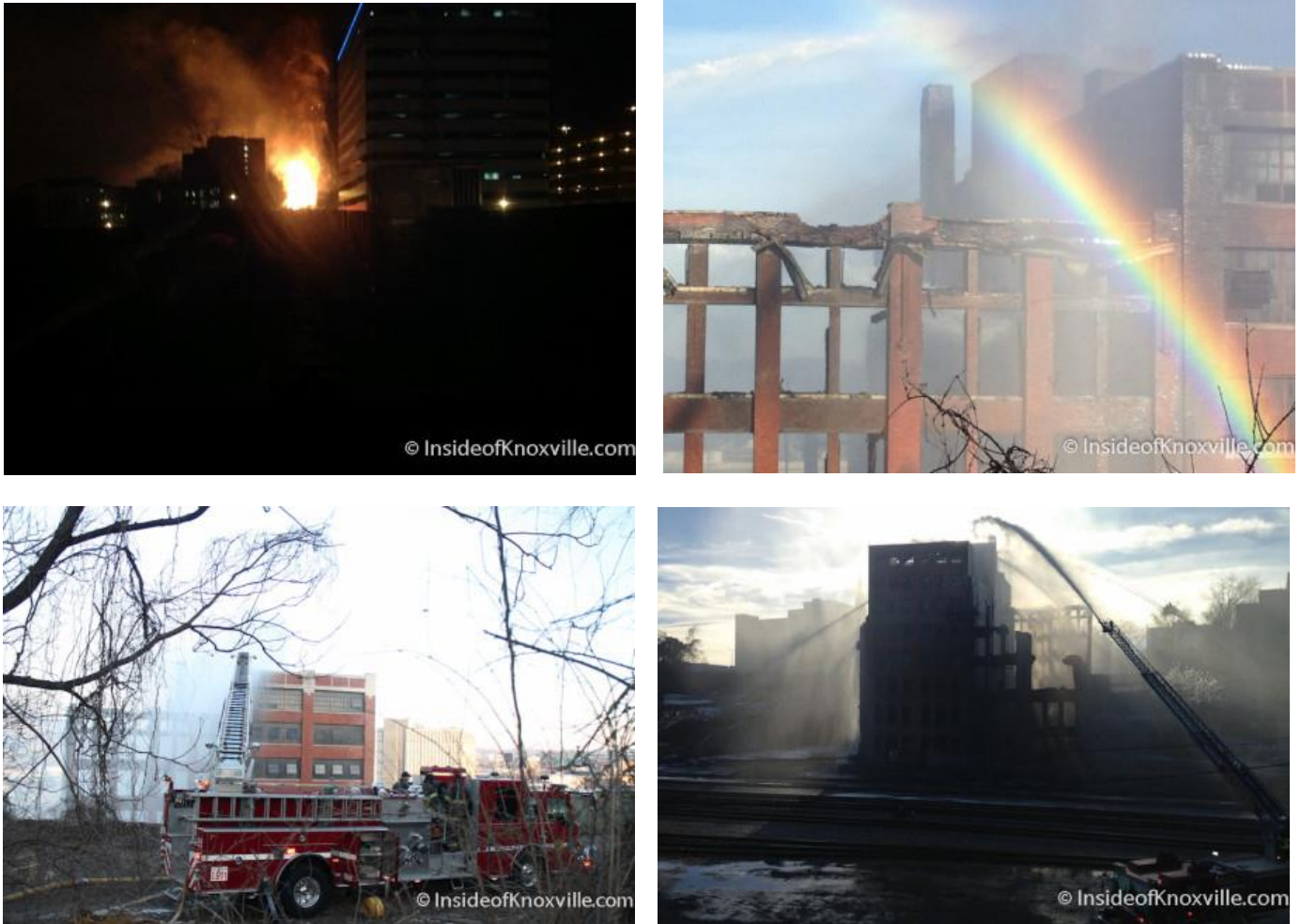


Image 1. Pictures of the 2014 McClung Warehouses Fire

The city invested more than \$1.4 million dollars to acquire the properties from a previous owner who had left them vacant and unused for more than 20 years. The city has also incurred significant costs in responding to two major fires at the properties. While the previous owner/developer had sought to make a viable project for the properties by reaching out to other developers, ultimately his financial bankruptcy led to the eventual sale of the properties. The location of these properties is highly visible by more than 100,000 vehicles per day from Interstate 40/75 through the heart of downtown Knoxville and prior to the fires that destroyed these historic warehouses the city often received comment on the “missed opportunity” that those buildings presented to the traveling public through downtown.

On April 3, 2014, the City of Knoxville held a public meeting for all interested parties to participate in a

visioning session or charrette process for the W. Jackson Ave. Corridor. Approximately 100 members of the community attended, providing input and recommendations for a variety of reuses for the site including residential, retail, commercial and recreational. The city plans to take these recommendations and craft an RFP that will encourage private developers to respond to the desires of the community. There were at least ten local developers at the public meeting who showed interest redeveloping the site once the site is cleaned and an RFP is issued by the city.

The purpose of this Cleanup Grant is to address the property known as the Former McClung Warehouses Site that was assessed under an EPA Targeted Brownfield Assessment Grant and to put the property back into productive use.

Brownfield Project Overview and Task Summary (Task Descriptions)

- A. Community Outreach:** This task includes publicity, meetings, and distribution of information to the public as the project progresses. Public/neighborhood meetings will be held at the start and end of the project. We will produce a quarterly progress update to be included in existing community newsletters throughout the duration of the project. This update will be included in an existing Central Business Improvement District newsletter at no charge to the project. Supplies needed for public meetings might include printed handout materials, etc. and the contractor would be required to prepare visual presentations of progress reports and attend all meetings to discuss project procedures and answer technical questions.
- B. Program Development and Management:** This task includes documenting guiding principles and procedures, establishing priorities for site remedial actions, and EPA-required performance reporting (e.g. quarterly reports, MBE-WBE reports, final closeout report and ACRES database reporting). Travel costs in this budget task would be used for attendance at regional Brownfields grantee workshops and the National Brownfields conference.
- C. Additional Assessment:** This task includes a passive soil gas survey across the site, recommended as a general site screening tool before redevelopment grading activities occurs, along with supplemental quantitative environmental media sampling to characterize areas that may detect elevated soil gas concentrations.
- D. Remedial Planning and Design:** This task includes the outputs of finalizing the ABCA, coordinating with TDEC on a Brownfields Voluntary Agreement, Soil Management and Health & Safety Plans and further evaluation of the current, documented site conditions from the Phase II ESA, to determine what materials need to be properly characterized and disposed of. This task also includes design of vapor intrusion system(s) as warranted to address the potential residential use of the site. The design will be based on the Phase II ESA findings, the supplemental sampling results, and the proposed site layout to the extent this information is available at the time of remedial planning.
- E. Cleanup Activities:** This task includes anticipated contractor costs for removal and disposal of contaminated soils and replacement with clean backfill as well as ambient air and soil gas sampling. For preliminary budgeting purposes we assume the following:
- Metals Contamination - soil removal and offsite disposal @ \$60 - \$75 per cubic yard; purchasing and transporting approx. 790 cu. yd. clean backfill @ \$25 per cubic yard
 - Removal of Petroleum Hydrocarbon or Volatile Organic Compound Impacted Soils - soil

removal and offsite disposal @ \$60 - \$75 per cubic yard; purchasing and transporting clean backfill @ \$25 per cubic yard

- Asbestos-Containing Materials - removal and disposal of approx. 3,000 sq. ft. @ \$2.00/sq. ft.
- Vapor Intrusion – six ambient air and six soil gas samples - collection and testing; drilling.

1.2 Project Description

A. Description of Brownfields

Our subject property is comprised of nine parcels and covers approximately 5 acres of land on Jackson Avenue in downtown Knoxville. This is the former location of the five McClung Warehouses which were constructed in 1893 and accommodated various business enterprises for more than 100 years. The site also housed an automobile garage, woodworking shop, a blacksmith shed, and railroad freight shipping and storage. A portion of the site is paved as an asphalt parking lot. A portion is grass covered and un-vegetated soil. Rail lines run along the northwest boundary. Surrounding properties included a railroad passenger depot, machine shop, foundry, woolen mill, farm machinery business, fuel station, plus various manufacturing and commercial facilities. Three of the splendid historic McClung warehouse buildings on the Jackson Ave. site were destroyed by a fire in 2007. Another fire in 2014 consumed a fourth. The remaining structure suffered heavy damage and had to be demolished, as its unstable condition presented a safety hazard. All that remains are the concrete foundations and portions of the front shell of the warehouses.

The McClung site is highly visible from Interstate 40/75 which runs through the heart of downtown Knoxville, and the once stately historic buildings are now just an ugly eyesore for the 100,000+ vehicles that travel the interstate daily. A Phase I Environmental Site Assessment (ESA) in 2015 identified Recognized Environmental Conditions (RECs) related to previous use as a railroad shop, blacksmith shed, oil and drug warehouses and automobile garage, as well as numerous suspected asbestos-containing materials in the remaining shells of the warehouses. Subsequently, a Phase II ESA performed in 2015 indicated the presence of elevated levels of toxic metals such as arsenic, cobalt, aluminum, iron, manganese, lead, vanadium and thallium in soil samples from the site, that exceed the EPA Regional Screening Levels (RSL) for industrial and residential applications. Also found was a pesticide at a concentration that exceeds the respective EPA RSL, and the chemical benzene at concentrations exceeding the EPA RSL Cancer Target Risk for residential air.

Environmental dangers caused by site contaminants and their migration, groundwater impacts, surface runoff, or waste material dumped on site, adversely impact the health, welfare and environment of people exposed through contact with the soil, air and water. Our target property poses a health and safety risk, not only because of its condition and potential for site contaminants, but also because it is easily accessible which makes it an attractive nuisance to curious children who have been seen playing in the rubble, and vagrants who may present a safety threat. Forty-four facilities whose past or present operations pose the greatest risk to contributing to contamination at the subject site were identified within the ASTM recommended search distances.



Image 2. Oblique Image from the north of the Former McClung Warehouse site

B. Demographic Information

Today, downtown Knoxville is seeing a resurgence of prosperity as revitalization is happening in its core. Despite renewal, parts of downtown and some of the surrounding neighborhoods remain disadvantaged. Notable highlight are the minority population in downtown is less than the national level, although higher in the surrounding neighborhoods. Unemployment rates in Knoxville are comparable to state and national averages (5.3% vs. 5.7% TN; 5.1% U.S. – *Bureau of Labor Statistics, September, 2015*), but incomes are much lower and poverty levels are much higher as indicated in the following comparative data table. Included are statistics for downtown and parts of the neighborhoods immediately adjacent to downtown to show the disparity between areas seeing redevelopment, and areas that are still plagued with abandoned and derelict buildings. These statistics were included in a 2014, Urban Land Institute study of Knoxville’s redevelopment areas.

Relevant Demographic Data				
	Downtown	Neighborhood	Tennessee	U.S.
Population	1,796	31,438	6,353,226	309,138,711
Minority	15%	32.9%	21.2%	25.8%
Median Household Income	\$33,899	\$20,644	\$44,140	\$53,046
Individuals Below Poverty Level	31.9%	48.3%	17.3%	14.9%
No high school diploma	9.4%	19%	16.1%	14.3%

Source: 2008-2012 American Community Survey (ACS) 5-year estimates

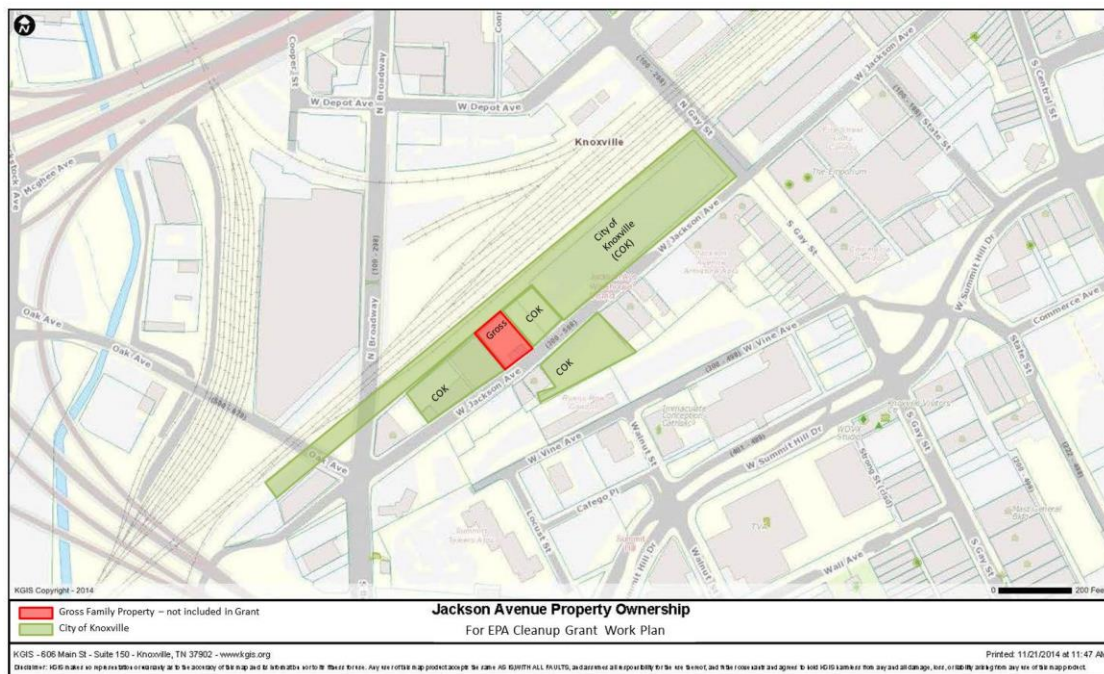
C. Project Description

The former McClung Warehouses sites on Jackson Avenue span approximately 5 acres of prime property in downtown Knoxville. Two major fires in 2007 and 2014 destroyed four of the historic buildings and severely damaged a fifth which had to be demolished. Portions of the front shells of the buildings are all that remains, along with a paved parking lot. After the 2014 fire, the City applied to the EPA for a Targeted Brownfields Assessment to determine the extent

of contamination on the site, and determine the best path towards redevelopment.

In 2015, EPA contracted with an environmental consulting firm, to perform Phase I and II ESAs. Contamination identified in the Phase II report includes metals and petroleum in the soil and soil gas, consistent with the former uses of the site. Asbestos-containing materials were observed in the remnants of the warehouses. Since the City of Knoxville acquired the property after the previous owner declared bankruptcy, its reuse has been the subject of much discussion, both in public forums and within the City's Office of Redevelopment. The City directed Knoxville's Community Development Corporation (KCDC) to create a Jackson/Depot Redevelopment & Urban Renewal Plan. As noted, the City of Knoxville held a public meeting for all interested parties to participate in a visioning session or charrette process for the West Jackson Avenue Corridor.

Approximately 100 members of the community attended the meeting and provided input on how they would like to see the property reused. The City heard recommendations for a variety of uses including residential, retail, commercial and recreational. The City plans to take the ideas put forward during the public hearing, in coordination with recommendations from an Urban Land Institute study of the Jackson Ave. Corridor, and craft an RFP that will encourage private developers to respond to the desires of the community, and in accordance with KCDC's redevelopment plan. The City would like to see the property developed for mixed use as commercial and residential. This is in keeping with the regeneration of other properties in the target area that have undergone redevelopment in recent years.



Map 1: Site location – Former McClung Warehouses

D. Proposed Cleanup Plan

The purpose of cleaning up the former McClung Warehouses property is to encourage private investment in a property that is centrally located in Knoxville's downtown. EPA contracted with an environmental consulting firm, to perform Phase I and II ESAs, as well as an Analysis

of Brownfields Alternatives (ABCA). The ABCA outlines alternative methods for addressing environmental concerns identified, and breaks the areas of concern into three issues – Surface and Subsurface Soils, Asbestos-containing Materials and, Vapor Intrusion. For each of these three issues, the ABCA presents two options. Option #1 for each of the issues is No Action, but that is not effective in controlling or preventing residents from coming into contact with contamination at the site.

The City of Knoxville will use the \$150,000 grant funds, along with its \$30,000 match to perform the cleanup methods recommended as Option #2 for each of the three issues. In addition, the City also plans to conduct supplemental assessment activities prior to initiating the cleanup. The Phase II ESA performed by EPA's environmental contractor provided discrete sampling information to generally characterize the site. An environmental consultant for the City has recommended supplemental sampling to increase the level of information available for consideration during site redevelopment, when considerable excavation or grading activities may be warranted to construct foundations for new structures. Prior to initiating grading activities, a passive soil gas survey across the site has been recommended as a general site screening tool. Based on the site's historic uses, its proximity to the railroad and the City's experience during other local Brownfield redevelopments, efforts to identify potential unknowns before grading begins can reduce risk and tailor site design to address environmental conditions. If the passive soil vapor survey identifies areas with elevated soil vapor readings, samples will be collected in an effort to determine the source of the soil vapors.

The City has included limited funding within this application to address additional impacted areas, if identified during the supplemental sampling. For Surface and Subsurface Soils, cleanup will involve localized removal of contaminated materials from some portions of the site. Based on EPA's removal criteria for residential properties, the contaminated soil would be removed and appropriately disposed as Special Waste within a Class I Landfill. The excavated areas would then be backfilled with clean material. For Asbestos-containing Materials, cleanup will involve removal and disposal of these materials by a licensed, qualified asbestos contractor. For Vapor Intrusion, additional vapor intrusion assessment may be warranted based on the passive soil gas survey findings, especially if the end use of the property is residential. This will involve collecting ambient air and soil gas samples. If samples exceed the calculated vapor intrusion screening level for residential air, source soils as determined through additional characterization will be excavated and transported for disposal at approved facilities, and replaced with clean backfill. Soil removed from any parts of the site would be adequately characterized and, based on the findings, handled in accordance with local, state and federal regulations. Prior to any site excavation, there will be a TDEC-approved Soil Management Plan (SMP) for characterization, handling and disposal of excavated materials. The ABCA, included with this work program (CD Appendix 1), discusses anticipated costs for each of the action alternatives.

E. Impacts on Targeted Community

Although the City of Knoxville is located in a region of particular scenic beauty, it has poor air quality, limited transportation options, a poverty rate higher than the national average, and serious health concerns including a high obesity rate, and a ranking of #7 in the country on the list of the most challenging places to live with asthma (Asthma and Allergy Foundation of America - 2015 report). The EPA released health risk data on the national-scale air toxics assessment (NATA) in 2009, which scales down to the census tract level. Air toxics are

pollutants known or suspected of causing cancer or other serious health problems such as birth defects. The tracts that make up our neighborhood area are shown to have an elevated risk for cancer, neurological risks and respiratory disease. The EPA, Environmental Justice mapping tool, EJView shows that women of child-bearing age in these same census tracts are at an elevated risk for low birth weight infants (who go on to have a lifetime of increased risk of health problems), and for increased infant mortality. Since our site is adjacent to a low income neighborhood with older houses, there are problems with lead-based paint, leading to an increased risk for neurological damage to resident children. ACS (2008-2012, 5-year estimates), shows that 36.1% of housing in the adjacent neighborhood is more than 65 years old compared to the rest of Tennessee at 6.7% and the national average of 13.7%. Based on a combination of age of housing and data on patients' blood lead levels over the past several years, the Knox County Health Department determined that neighborhoods adjoining our subject site have the highest risk of elevated blood lead levels in Knoxville children – 50% or higher in families in poverty, 60% or higher in families occupying older homes and 80% and higher in minority families.

East Tennessee is located in the heart of Appalachia which has historically experienced a poverty rate higher than the national average and an education level lower than the national average. The demographic table shows our target neighborhood has an income level far below the state and national average, and while poverty and lower education levels do not in themselves cause adverse health conditions, residents have limited access to preventive and pre-natal health care and medical services, in part due to limited transportation options to access these facilities. Jackson Avenue is adjacent to where most of the social service organizations are headquartered and where most of the homeless congregate, which presents a safety concern for them and for others if they shelter in abandoned buildings in the neighborhood. There is far more likelihood of illegal activity, injurious trash and vandalism in these locations.

The property that will be cleaned up under this grant was first developed in 1893 when the first of the McClung Warehouses was constructed. Subsequently, more warehouses occupied the site, as well as railroad-related facilities, blacksmith shed, automobile garage, woodworking shop and various other commercial enterprises. These former uses have left a legacy of metals and potential petroleum contamination, as well as asbestos-containing materials (ACM). The fires that consumed the buildings illustrated the worst-case scenario for vacant and blighted historic buildings. Five historic buildings were lost, at least hundreds of thousands of dollars in damage was caused, and one thriving business owner lost everything and was displaced. The condition of the property impacts the target community in several ways. It poses a threat to public health and the environment because of the elevated levels of toxic metals, pesticide and benzene in soil and soil gas samples taken from the site, because of the remaining shells of the warehouses that contain asbestos, and because of the safety issues associated with its appeal to homeless people and children. Moreover, it is a large tract of land (approx. 5 acres) in the heart of Knoxville's city center that is a blight in the community that adversely impacts efforts to revitalize the area.

1.3 Project Team Structure and Responsibilities

Under the EPA and in close coordination with Tennessee Department of Environment and Conservation, the lead organization managing the project is the municipal government of the City of Knoxville, Tennessee, with the Office of Redevelopment functioning as Project Manager. The organizational structure and communication flow of all key entities supporting this project is shown in Figure 1, and includes all City Departments that have applicable grant managing or technical experience (Community Development, Finance, Legal, and Engineering), and our regional development agencies: Knoxville Community Development Corporation, Knox County Development Corporation, and East Tennessee Community Design Center. The role of these parties is to provide oversight and guidance to the Office of Redevelopment and the Consultant(s) as we execute the work outlined in this plan. Neighborhood representation is also included, to ensure that we remain plugged into the Community and have additional resources to spread the updates as work progresses.

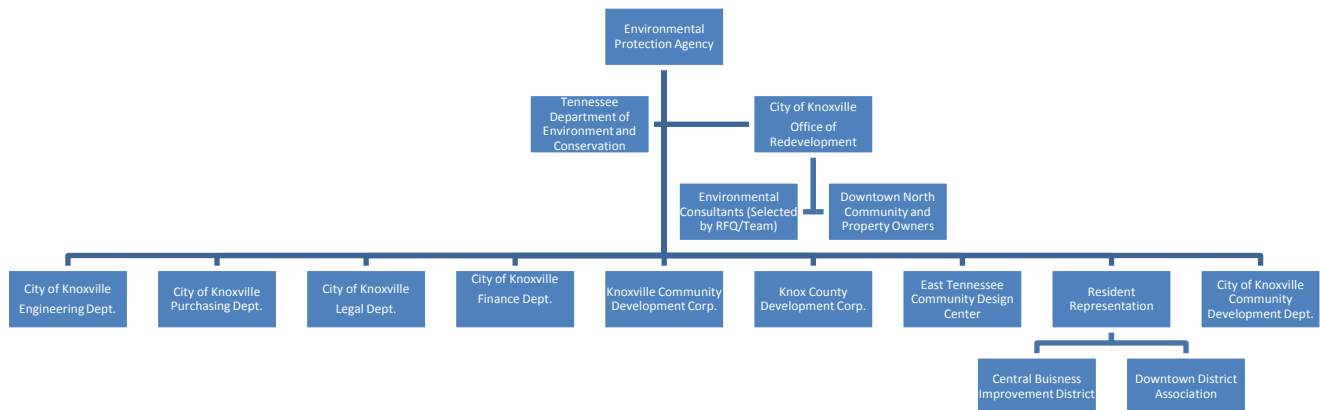


Figure 1. Knoxville Former McClung Warehouses Cleanup Team Organizational Chart

Communication will flow from the Office of Redevelopment to all parties throughout the Project. As the EPA provides guidance and input, the Office of Redevelopment will pass this information on the Team and Consultant(s). The Office of Redevelopment will report to the EPA in the form of quarterly reports and between reports stay in communication with the EPA project officer as questions or issues arise.

The following describes the roles and responsibilities of all key entities supporting this project. The Office of Redevelopment will be point of contact and take the lead in coordinating with all other involved parties. City Engineering, Legal, Community Development, Purchasing Department and Finance Departments will play key roles in Project technical and accounting support. Knoxville Community Development Corporation, Knox County Development

Corporation, and East Tennessee Community Design Center will provide advice and prior Brownfield management and grant experience, and Downtown Business and Neighborhood Groups will provide insight and help the Team effectively reach the Community and individual property owners.

The Office of Redevelopment, in conjunction with the City's Purchasing Department will procure contractors in accordance with 2 CFR Parts 200 and 1500, ensuring that contractors comply with the terms of their agreements with the city.

The Office of Redevelopment, in consultation with the Project Team, will provide project updates to the State of Tennessee's Brownfields Voluntary Cleanup and Assistance Program (VOAP) designated contact on a regular basis. The City of Knoxville will make the State of Tennessee aware of all site-specific cleanup activities to be initiated and will provide the State an opportunity to review and comment on all technical reports, including Quality Assurance Project Plans (QAPPs), sampling plans, Analysis of Brownfields Cleanup Alternatives (ABCAs), cleanup plans, and other technical reports. The State of Tennessee will be specifically notified for cleanup activities. A good working relationship with Tennessee's VOAP Department was established with the South Waterfront and Downtown North Community Wide Assessment grants, and prior to that when the South Waterfront Department applied for and was admitted entry into the VOAP program for a Brownfield site that is now under construction - Suttree Landing Park and Waterfront Drive, prior to applying for this grant:

Mr. Evan Spann, Voluntary Programs Coordinator
State of Tennessee Department of Environment and Conservation
William R. Snodgrass Tennessee Tower
312 Rosa L. Parks Ave., 14th Floor
Nashville, TN 37243
Evan.W.Spann@tn.gov
615-532-0919

The Project Team described above will interact quarterly as a group, but will be called on an individual basis by the Project Manager as necessary between Team meetings. The Cooperative Agreement Terms and Conditions will be distributed to the Team prior to the first meeting via email, and will be discussed with the Project Team at the first meeting. The Team will also discuss and agree on the establishment and maintenance of necessary Cooperative Agreement records and files, financial management, and Project oversight.

1.4 Measuring Environmental Results: Outputs/Outcomes

A. Project Outputs: (*Project Tasks*)

1) Community Outreach

This task includes publicity, meetings, and distribution of information to the public as the project progresses. Public/neighborhood meetings will be held at the start and end of the project. We will produce a quarterly progress update to be included in existing community newsletters throughout the duration of the project. This update will be included in an existing Central Business Improvement District newsletter at no charge to the project. Supplies needed for public meetings might include printed handout materials, etc. and the contractor would be required to

prepare visual presentations of progress reports and attend all meetings to discuss project procedures and answer technical questions.

2) Program Development and Management

This task includes documenting guiding principles and procedures, establishing priorities for site remedial actions, and EPA-required performance reporting (e.g. quarterly reports, MBE-WBE reports, final closeout report and ACRES database reporting). Travel costs in this budget task would be used for attendance at regional Brownfields grantee workshops and the National Brownfields conference.

3) Additional Assessment

This task includes a passive soil gas survey across the site, recommended as a general site screening tool before redevelopment grading activities occurs, along with supplemental quantitative environmental media sampling to characterize areas that may detect elevated soil gas concentrations.

4) Remedial Planning and Design

This task includes the outputs of finalizing the ABCA, coordinating with TDEC on a Brownfields Voluntary Agreement, Soil Management and Health & Safety Plans and further evaluation of the current, documented site conditions from the Phase II ESA, to determine what materials need to be properly characterized and disposed of. This task also includes design of vapor intrusion system(s) as warranted to address the potential residential use of the site. The design will be based on the Phase II ESA findings, the supplemental sampling results, and the proposed site layout to the extent this information is available at the time of remedial planning.

5) Cleanup Activities

This task includes anticipated contractor costs for removal and disposal of contaminated soils and replacement with clean backfill as well as ambient air and soil gas sampling. For preliminary budgeting purposes we assume the following:

Metals Contamination - soil removal and offsite disposal @ \$60 - \$75 per cubic yard; purchasing and transporting approx. 790 cu. yd. clean backfill @ \$25 per cubic yard

Removal of Petroleum Hydrocarbon or Volatile Organic Compound Impacted Soils - soil removal and offsite disposal @ \$60 - \$75 per cubic yard; purchasing and transporting clean backfill @ \$25 per cubic yard

Asbestos-Containing Materials - removal and disposal of approx. 3,000 sq. ft. @ \$2.00/sq. ft.

Vapor Intrusion - six ambient air and six soil gas samples - collection and testing; drilling.

B. Project Outcomes: (Project Benefits)

1) Health and/or Welfare and Environmental Benefits

a) Health and/or Welfare Benefits

Pollutants from industrial waste and toxic chemicals are considered harmful to humans who are exposed to them through contact with soil, air and water. Sensitive populations such as children, pregnant women and the elderly are at particular risk as their immune systems may be less resistant. The property that will be cleaned up under this grant was first developed in the late 1800's and housed a variety of commercial operations as well as railroad facilities. The Phase II ESA identified soils contaminated with heavy metals and petroleum products as well as asbestos-containing materials. These contaminants plus evidence of previous use by homeless individuals all combine to present a threat to the health and welfare of the neighborhood. This threat will be

eliminated when the property is cleaned up, secured, and redeveloped into an asset for the community.

Contaminated soils will be removed and clean fill put in place to prevent people from coming into contact with toxic substances. ACM will be removed which will prevent exposure to contaminated materials. Cleanup of the property will stimulate interest from private developers who have redeveloped several adjacent properties into successful residential and commercial enterprises. The mixed-use vision that the City has for the site will provide residents of adjacent underserved neighborhoods access to employment opportunities resulting in a better standard of living, as well as the ability to walk to employment, dining and shopping to encourage exercise thus leading to a healthier lifestyle.

b) Environmental Benefits

Soil removal will reduce the potential for surface runoff that likely contains pollutants such as chemicals and oil, to enter storm drains and ultimately end up in rivers and streams which can contaminate drinking water. Waste material dumped on the site breaks down over a period of time and can release chemicals into the soil and the air. Removing waste material from the site will remove this threat from the environment. As stated, site cleanup will lead to redevelopment and most likely offer employment, dining and shopping opportunities for local neighborhood residents. Potentially, this will allow some of these residents to walk to work instead of having to drive, or walk to the retail establishments which in turn, reduces vehicle emissions that contribute to unhealthy air. All of these benefits contribute to a healthier environment.

2) Environmental Benefits from Infrastructure Reuse/Sustainable Reuse

a) Policies, Planning or Other Tools

At the beginning of her administration, Knoxville's Mayor Madeline Rogero outlined four major goals: ♦ Strong, safe neighborhoods; ♦ Living green and working green; ♦ An energized downtown; ♦ Job creation and retention. These goals guide the City's budget and operations. Its Energy & Sustainability Initiative has helped make Knoxville a greener, more sustainable city that promotes sustainability by embedding support for low-impact design and alternative transportation options into how it designs and manages public infrastructure, and integrates sustainability principles into actions like street design, utility infrastructure planning and maintenance. Conserving resources and saving energy makes basic financial sense. The City is implementing sustainable development strategies such as: the Solar America Cities Program; Leadership in Energy and Environmental Design (LEED) certification for the new Downtown Transit Center; energy efficient building practices for low-income housing programs, and more. Downtown has full access to all public utilities and wherever possible, these existing utilities will serve new facilities. As derelict structures are demolished, the practice is to recycle demolition materials whenever possible -- as advocated in City policy, and done on other brownfield demolition sites where useable materials have been recovered rather than transported to a demolition landfill.

b) Integrating Equitable Development or Livability Principles

The City has embraced the six livability principles established by The Partnership for Sustainable Communities and set up specific programs and/or plans to further equitable development. In 2015, City officials hosted representatives from Smart Growth America to introduce concepts related to transit oriented development which promotes a mixture of housing, office, retail and/or other amenities integrated into a walkable neighborhood and

located within a half-mile of quality public transportation. This ties into the Jackson/Depot Redevelopment and Urban Renewal Plan and the Urban Land Institute study calling for an integrated mixed-use area with visual, pedestrian, vehicular and land use connections working together. Connecting currently disconnected streets and enabling pedestrian, cycling and public transit options for access to employment, schools, and shopping will decrease vehicular miles traveled, thereby reducing greenhouse gas emissions and benefiting health..

Knoxville's housing programs target improvement and construction of affordable housing, homebuyer assistance, and repair and rehabilitation to reduce the number of substandard rental and owner-occupied properties. Components are: Down-payment Assistance Program - through federal grant funds, the City supports new construction and rehabilitation projects for affordable housing; Owner-Occupied Home Rehabilitation - funds are available for owners to rehabilitate substandard residential properties; Rental Rehabilitation Program - provides assistance to owners of substandard rental property. In return, property owners agree to long term rent and occupancy restrictions to keep the housing affordable to lower-income tenants; Blighted Property Redevelopment Program - provides short-term development and construction financing through subsidized loans to redevelop and renovate unoccupied residential dwelling units.

The City's Equal Business Opportunity Program is an outreach program aimed at increasing minority, women, and small businesses' participation in the City's procurement process for construction, goods and services. Every effort is made to encourage disadvantaged businesses to provide services on City projects.

Three Rivers Market, Knoxville's Community Food Co-op, is a customer-owned cooperative, and center of sustainable commerce that benefits members and the community by creating and nourishing a healthier environment, healthier people, and a healthier community. It strives to provide the very best local, organic, and healthy food available. The Co-op represents a three-million dollar investment in a former abandoned facility within a mile of our subject site and within walking distance of low income neighborhoods. In 2010, the City approved a business expansion loan under the Empowerment Zone (EZ) program worth up to \$400,000 to expand the market with 7,000 square feet of retail space and a café.

3) Economic and Community Benefits (long term benefits)

a) *Economic or Other Benefits*

Economic benefits are already being realized from new retail and commercial establishments that have turned former underutilized properties into successful business ventures and created employment opportunities for local residents. Those benefits will increase considerably when the McClung Warehouses and other brownfield sites are cleaned up and become once again productive properties. One of the obvious benefits is the increased tax base for the City of Knoxville. The vision for the Jackson Avenue district is a mixed-use community including office, commercial, cultural and residential use. A report titled *Reclamation and Economic Regeneration of Brownfields*, compiled by E.P. Systems Group, cites a study of brownfield project economic features which found that cleanup costs averaged only 8% of total project costs, and every \$1 of public sector financing invested leveraged an additional \$2.48 in private dollars.

On the Knoxville local level, a former railroad repair facility adjacent to the target area became

the home of Sysco Corporation, a 250,000 sq. ft. food distribution facility that employs over 300 people. An article in the Knoxville News Sentinel noted that “Sysco’s \$50M capital investment was shown to yield an economic impact in Knoxville of \$91M via the various businesses involved in building the project.” The Sysco site is approximately 44 acres. The Development Corporation of Knox County (TDC) estimates the property tax revenue from Sysco at approximately \$15,000 per acre, per year. TDC also estimates that 5-10 new jobs are created per acre of industrial property developed. The estimated 5 acres of the McClung site could yield as many as 50 new opportunities for employment for local citizens. That number may seem insignificant compared to redevelopment of a large site into a major employment center, but to the residents of the poorer neighborhoods in the area, that can represent a big change in the incomes of many families. An increase in employment generates an increase in spending. It means houses will be maintained, which leads to money spent on supplies needed to make the improvements. It means disposable income to spend in retail establishments and restaurants in the neighborhood. It improves the economy, and it leads to neighborhood stability which is desperately needed in our underserved neighborhoods.

b) Job Creation Potential: Partnerships with Workforce Development Programs
Knoxville-Knox County’s Community Action Committee (CAC) provides job training through its Workforce Connections, which is responsible for the development and operation of a variety of programs focused on employment assistance, related training and support. Of note are two programs that focused on environmental training. Eight unemployed workers were trained for ‘green’ jobs as weatherization auditors to perform energy audits of homes to find and correct deficiencies, e.g. sealing leaks around windows and doors etc. Of the eight that were trained, five found permanent employment and two started their own businesses providing energy audits. The second training of note relates to the environmental cleanup of contaminated sites at the Department of Energy facilities in Oak Ridge, located 20 miles from Knoxville. Workforce Connections developed a program, conducted by the International Chemical Workers Union, to train environmental technicians in hazardous materials handling, Hazardous Waste Operator Training and Emergency Response certification, and Occupational Safety and Health Administration (OSHA) construction certification in asbestos, mold and lead. CAC is located adjacent to our target area and therefore well positioned to provide training to the underserved citizens of the downtown neighborhoods.

1.5 Budget

Budget Table for Work Plan Tasks

Budget Categories	Project Tasks					
(Programmatic costs only)	Task 1 Project Management and Reporting	Task 2 Community Involvement/Engagement	Task 3A Additional Site Characterization	Task 3B Cleanup Planning and Design	Task 3C Cleanup Implementation	Total
Personnel						
Fringe Benefits						
Travel ¹	\$3,000					
Equipment ²						
Supplies		\$300				
Contractual ³	\$3,000	\$3,000	\$20,000	\$30,000	\$120,700	
Other – specify						
Total EPA Funding	\$6,000	\$0	\$15,000	\$20,000	\$109,000	\$150,000
Cost Share ⁴	\$0	\$3,300	\$5,000	\$10,000	\$11,700	\$30,000
Total Budget	\$6,000	\$3,300	\$20,000	\$30,000	\$120,700	\$180,000

¹ Travel to brownfields-related training conferences is an acceptable use of these grant funds.

² EPA defines equipment as items that cost \$5,000 or more with a useful life of more than one year. Items costing less than \$5,000 are considered supplies.

³ The CAR must comply with the procurement procedures contained in 2 CFR 200 and/or 1500.

⁴ If receiving a cost share waiver this can be omitted.

2.1 PROJECT TASK DESCRIPTIONS

This section includes a summary of tasks for the City of Knoxville Former McClung Warehouses Grant project including required tasks described in the Cooperative Agreement Terms and Conditions. The City of Knoxville will work with the State of Tennessee Department of Environment and Conservation to consider information that would be needed if additional portions of this Project are to be considered eligible for entry into the VOAP program. To the extent applicable, the following includes what will be done to ensure State involvement within each task description.

TASK 1 PROJECT MANAGEMENT AND REPORTING

- A. Quarterly Reporting:** In accordance with EPA regulations 2 CFR Parts 200 and 1500 (specifically, 200.328 *monitoring and reporting program performance*), the City of Knoxville's Office of Redevelopment understands that quarterly progress reports will be due 30 days after the end of each federal fiscal quarter, on the schedule presented as follows:

<u>Performance Period</u>	<u>Report Due</u>
July – Sept	Oct 30
Oct – Dec	Jan 30
Jan – March	April 30
April – June	July 30

The quarterly reports will be completed in the format described in this guidance and copies will be sent to the following 2 email addresses:

1. EPA Region 4 Project Officer: Olga Oliver Perry, perry.olga@epa.gov
2. State Brownfields Coordinator: Paula Middlebrooks, paula.middlebrooks@tn.gov

B. Annual Reporting:

1. Disadvantaged Business Enterprise Reporting: Minority Business Enterprise/Women- owned Business Enterprise (MBE/WBE)

Because it is the federal government's goal to support disadvantaged business enterprises with federal funds, and State agencies work with each federal agency to establish performance targets for federal funds invested in that State, the City of Knoxville will seek opportunities to participate in this goal throughout this Project when possible. EPA Form 5700-52A will be used for reporting efforts to this end, and will be submitted annually with the quarterly reports due October 30. These reports will be sent electronically in separate attachments along with the quarterly reports to the project officer and mailed via hard copy or electronically to the EPA Grants Office annually to the following address:

EPA Region 4
Grants Management Office
61 Forsyth St., 14th Floor
Atlanta, GA 30303
Attn: Zakiya Davis
davis.zakiya@epa.gov

A link to the form is at: <https://www.epa.gov/grants/epa-grantee-forms> and will be submitted by October 30 of each project year.

2. Federal Financial Reports (FFRs):

Federal Financial Reports are due annually to EPA. The reports will be submitted by January 30 of each year. These forms will be sent electronically in separate attachments along with the quarterly reports to the project officer. The forms will also be mailed via hard copy or electronically to the EPA Grants Office annually at the following address:

EPA Region 4
Grants Management Office
61 Forsyth St., 14th Floor
Atlanta, GA 30303
Attn: Zakiya Davis
davis.zakiya@epa.gov

The forms will also be r electronically mailed to EPA's financial center in Las Vegas annually and at the close-out of the grant to the following address:

EPA Las Vegas Finance Center (LVFC)
LVFC-grants@epa.gov
Or Fax: 702-798-2423

A link to the form is at: <http://www.epa.gov/ogd/forms/adobe/SF425.pdf>

C. Final Performance Reporting: In accordance with EPA regulations 2 CFR Parts 200 and 1500 (specifically, 200.328 *monitoring and reporting program performance*), the City of Knoxville agrees to submit to the EPA Project Officer within 90 days after the expiration or termination of the approved project period a final technical report and at least one reproducible copy suitable for printing. This report should summarize the accomplishments (outcomes, outputs, and other leveraged resources) during the entire grant project period, including the last quarter. The City of Knoxville's Final Performance Report for the Former McClung Warehouses will include:

- A summary of funds expended and work completed;
- A list of all outreach material and any other deliverables;
- Site photographs (electronic high resolution if possible); and
- Lessons learned.

D. ACRES: Property specific information, including the property address and cleanup completions, will be entered electronically in EPA's Assessment Cleanup Redevelopment Exchange System (ACRES) database <http://www.epa.gov/acres>. The information in the quarterly report will correlate with the information in ACRES. ACRES is a national database from which site-specific accomplishments are measured by Congress and the public. ACRES relevant portions of the database will be updated for each property when the following occur:

- 30 days after award,

- Mobilization for cleanup,
- Completion of cleanup (only after consultation with the Project Officer),
- Funds are leveraged and/or jobs created (quantities)
- Completion of the Project Period (or Final Report), and
- As significant events occur at the site, but not later than the end of the quarter in which the event occurred.

E. Contractor Procurement:

Contractors will be procured in accordance with 2 CFR Parts 200 and 1500 (Uniform Administrative Requirements, Cost Principles, And Audit Requirements For Federal Awards), ensuring that contractors comply with the terms of their agreements with the City of Knoxville and will not violate Tennessee state law or City of Knoxville procurement codes, and that contractors comply with the terms and conditions of the cooperative agreement:

<https://www.gpo.gov/fdsys/granule/CFR-2014-title2-vol1/CFR-2014-title2-vol1-part200/content-detail.html>

<http://www.ecfr.gov/cgi-bin/text-idx?SID=9dad727f830d7c452669df30fc406fee&node=pt2.1.1500&rgn=div5>

<http://www.lexisnexis.com/hottopics/tncode/>

<http://www.knoxvilletn.gov/purchasing>

Procurement is an activity that is eligible as a pre-award activity.

F. Reimbursement Request: The City of Knoxville acknowledges that there are two methods for payment. EPA's preferred method of payment for the City of Knoxville is the Automated Standard Application for Payments (ASAP). The City of Knoxville uses multiple bank accounts for EPA grants/cooperative agreements, and will enroll in ASAP for this grant. Once enrolled for this grant, the City of Knoxville can access ASAP at www.asap.gov to request payments. The ASAP payment process is designed to provide federal funds to a recipient organization within 48 hours.

The second method is to submit EPA form 190-F-04-001 via fax or email to the Las Vegas Finance Center—see contact info under Section 2.0, Task 1, B.2., above. This non-ASAP form can be found at: <https://www.epa.gov/financial/payment-request-form-grants-and-cooperative-agreements>.

G. Kick-off Meeting: Upon selection of the Contractor, the City of Knoxville's Project Team, EPA, and State partners will have a project kick-off meeting that involves a tour of the Former McClung Warehouses. This will serve to orient all the partners to Project expectations. This will be utilized as a good opportunity to review Project roles, responsibilities, and schedules, and to ensure that everyone has what they need from one another to execute their roles appropriately. The City will look forward to recommendations from the EPA Project Officer regarding tools and resources that may be useful in the implementation of the grant activities.

H. Travel: EPA Region 4's Brownfields Program supports the use of grant funding for travel to local, state and national brownfields-related conferences. The City of Knoxville will identify and budget for educational/training opportunities that enhance our program development. Travel to brownfields state association meetings, conferences or workshops provide valuable opportunities for networking which can lead to capacity building. EPA is aware of the benefits of this type of outreach travel in moving sites toward and achieving the end result of revitalization. The City of Knoxville acknowledges that costs for necessary travel and transportation expenses, including local trips, are allowable programmatic costs and has incorporated travel costs into the proposed budget worksheets.

Task 1 will be primarily conducted by: the City of Knoxville's Office of Redevelopment.

TASK 2 COMMUNITY INVOLVEMENT/ ENGAGEMENT

A. Community Involvement and Engagement

The City of Knoxville makes every effort to engage local citizens in plans for projects in their neighborhoods in order to make full use of citizens' ideas and opinions in considering investment of public funds. In the spring of 2014, City officials asked for public input on how to proceed with reshaping our subject site. About 100 people - potential developers, downtown and Old City property owners, residents and advocates - came to the public forum. Even more people mailed in comment cards or shared their ideas over several weeks in an online survey. A large number of the commenters said they wanted mixed-use redevelopment-buildings for residential and commercial retail uses, with parking. (Underground parking was touted; alternatively, an idea of an elevated green space with parking below it was also proposed.)

"Connectivity" was a common theme. Many people told City officials that they wanted a greenway and bicycle trail that connected the Old City with World's Fair Park. A path following the railroad was backed by some; others said they were supportive of a trail along Jackson Avenue so long as it avoided the sharp ups and downs of the street viaducts in order to be attractive to walkers and riders. Other ideas ranged from creating a public event space, to reinforcing and extending the adjacent South Gay Street arts district, to maintaining and capitalizing on the "urban chic" feel of being a former warehouse district with close proximity to railroad tracks. Dozens of other suggestions were proposed and discussed for the tract. Officials emphasized that there was no preconceived starting point or plan for West Jackson Ave., and that public participation is vital in defining how the corridor will be redeveloped.

Throughout the recent community wide brownfields assessment project in adjacent Downtown North, the City held quarterly public meetings to inform residents of the project's progress. Meetings were publicized on the City's website and held in a location central to the project area. A quarterly newsletter providing details about the assessment activities was published on the City's website, distributed to local libraries, and sent via email to interested citizens. If the City's grant application for cleanup funding is successful, the City will similarly involve the public, and in particular, the target neighborhood's residents, in the decision-making for the reuse of the site and its appropriate cleanup. Naturally, the area's residents will have concerns related to cleanup activities, particularly as they might affect sensitive populations. The City and its contractor will explain the measures that will be taken to provide health and safety protections to the neighborhood during cleanup and construction activities. If impacted materials or soil vapors are encountered during remedial activities, appropriate monitoring would be performed to document

site conditions, and precautions taken to reduce exposure potential.

The policy of the City is to ensure meaningful communication with persons that experience Limited English Proficiency. The primary language in the area is English, and the City has not been requested to communicate in another language. However, should that need arise there are available resources at the University of Tennessee, Knoxville which houses the Center for International Education, and also the Hispanic Chamber of Commerce, located in Knoxville.

- 1. Outreach:** The following describes how public involvement will be performed. This is consistent with the Cleanup Grant Proposal submitted, and will ensure Community concerns are considered in cleanup planning and execution, that the Public is kept informed of project progress and results, and that Community involvement in the project is encouraged.

This task includes publicity, meetings, and distribution of information to the public as the project progresses. Public/neighborhood meetings will be held at the start of the project and as the project warrants. Based on previous public/neighborhood meetings held to provide information on the redevelopment of the project area, we anticipate a significant number of attendees. Supplies would be needed, and the contractor would be required to attend to discuss project procedures and answer technical questions.

From the City of Knoxville's Office of Redevelopment, the Project Manager will be designated spokesperson. On an on-going basis, relevant documents will be placed in Reference at the main branch of the county's public library system, Lawson McGee Library, so they are available to the Public for review for a set amount of time. Each time a document is placed at the library, it will be noted on the Office of Redevelopment website (www.knoxvilletn.gov/redevelopment) and quarterly newsletter.

As noted, the target community is already engaged in the vision process for the Jackson Avenue redevelopment and channels for engaging them in the work covered in this grant are established. There have been several public meetings for the Jackson Avenue area including streetscapes, ramp replacement and the former McClung Warehouses site. The meetings have been publicized in the local newspaper, television channels, and on the City of Knoxville's website and were well attended. Comments from the meetings have been published on the City's website and it is evident that there is overwhelming support for the efforts to enhance the quality of life in Downtown through community improvement projects. Neighborhood organizations, business associations, citizens' groups, redevelopers and stakeholders are treated with equality and are privy to the same information, and are in the habit of contacting staff with any questions.

The brownfield cleanup for the Former McClung Warehouses Site will fit in well with the community's understanding of the intent of this project because sustainable redevelopment of underutilized or blighted properties is a key element in the vision of Downtown – quality growth from the core outward. Future Downtown spaces are being designed to work within the natural restraints and maximize the natural benefits of each site, resulting in environmentally conscious areas that will educate the community on sustainable brownfield redevelopment. A brownfield fact sheet will be prepared and distributed at the kick-off meeting and brownfield work will also be communicated in quarterly newsletters, on the website, in our community meetings and piggy-backed onto other project updates.

2. **Project Updates and other Public Information:** The progress of the project will continue to be communicated through the City's web site, the Central Business Improvement District (CBID) newsletter, local media, and community meetings. Brownfield cleanup updates will be shared in any Downtown community meetings. Meetings will continue to be located in the community in easily accessible public facilities (past locations have included accessible community buildings, the health department, churches, and businesses) and will continue to be held after working hours to accommodate community work schedules. As always, comment cards will be provided. Any feedback will be addressed individually.

Through the city's website the community is already aware of this grant application award (<http://www.knoxvilletn.gov/cms/One.aspx?portalId=109562&pageId=3951623>). Other means or activities that will be used to keep the public informed and involved include a Grant fact sheet prepared and distributed to the affected community at the beginning of the Project, and the final report distributed after the Project is complete. New developments or delays will be noted and explained in the quarterly updates. The Office of Redevelopment plans to continue its current working relationships with government agencies and community organizations.

B. Partnerships with Government Agencies

Throughout the Brownfields Assessment projects that the City of Knoxville has successfully completed, the Tennessee Department of Environment and Conservation has been a strategic partner in lockstep with the City to aid in determining the extent of contamination of selected properties targeted for assessment. Funding for both hazardous and petroleum contamination sites required working closely with several TDEC personnel in the relevant local field offices, as well as the Brownfields Program Manager in TDEC's Nashville headquarters, to make sure that all appropriate guidelines and rules were being followed. TDEC personnel attended public meetings and committee meetings and have been included in all correspondence related to the assessment projects. TDEC has worked with the City in preparing Brownfields Voluntary Agreements for properties identified and targeted for redevelopment. The City will work with TDEC to construct a Brownfields Voluntary Agreement for the McClung Warehouses site.

The Knox Co. Health Dept. is physically located close to the target area and provides health services to neighborhood residents. The Health Dept. hosted several public meetings to engage the community in the redevelopment planning for adjacent Downtown North and will be a public site for project progress bulletins.

C. Partnerships with Community Organizations

While there are several community-based organizations that support the project, there are four that have already played a noteworthy role, and have committed to continuing their active involvement.

Knoxville's Community Development Corporation (KCDC) is the housing and redevelopment agency for the City. For nearly 70 years, KCDC has enhanced the quality of life for the citizens of Knoxville by providing safe, decent and affordable housing, advancing redevelopment initiatives, fostering self-sufficiency, and improving neighborhoods and communities. KCDC administers more than \$6 million annually in redevelopment and community and neighborhood revitalization, and is responsible for numerous neighborhood improvement projects including

developing two new grocery stores, medical office complexes, and more than 100 new housing units. KCDC produced the Jackson/Depot Redevelopment and Urban Renewal Plan to address critical issues affecting the area including: economic development, particularly on older, often vacant, industrial properties; conservation of historic resources, especially historic properties in the downtown neighborhoods; improving multi-modal transportation including sidewalks and bicycle facilities; new land use opportunities on underutilized and vacant properties offering mixed-use development; and enhancement of environmental and recreational systems including the Second Creek greenway that runs through the area. KCDC will continue its role as redevelopment agency to support the implementation of the Jackson/Depot Redevelopment and Urban Renewal Plan.

The Development Corporation of Knox County (TDC) is a non-profit organization committed to fostering the long-term, quality growth of the region's business environment. As the property owner and manager of six business parks located throughout Knox County, TDC is focused on maintaining a sufficient inventory and diversity of properties to meet the needs of new and expanding businesses. In 2004, TDC, on behalf of Knox County, applied for, and received, an EPA Brownfields Assessment grant to assess a 19.4-acre derelict property - the former Brookside Knitting Mill, which had become an attraction for indigent people, and presented a safety hazard in the community. EPA Brownfields funds were used to assess Brookside Mills, local government funds were used to clean up the property, and a Brownfields Voluntary Agreement with TDEC was enacted in 2007. The site was purchased and redeveloped by a local businessman and now houses the corporate offices of Holston Gases. TDC understands the role of Brownfields in industrial and commercial development and actively promotes job creation opportunities for the area and partners with the City and Chamber of Commerce to market properties for development. TDC's Executive Vice President served on the Knoxville South Waterfront and Downtown North Brownfields Committees and helped guide the City in the prioritization of brownfield sites for redevelopment. It is anticipated that he will perform a similar role for the Jackson Avenue cleanup.

East Tennessee Community Design Center (ETCDC) is a non-profit organization that works with community groups to facilitate positive change in economically distressed communities through the pro bono contributions of area architects, landscape architects, planners, and other professionals. This network of community volunteers donates over 2,000 volunteer hours annually which leverage five times their value in improvements and services. ETCDC provides schematic design of structures including land use planning and landscape design, blight removal, and visual enhancement programs. Examples of neighborhood stabilization projects include parks, community centers, housing rehabilitation planning, blighted property identification, making facilities accessible to persons with disabilities, adaptive reuse of historic properties, and facilitation of public and community input visioning to stimulate quality economic and community growth. ETCDC partnered with the City in the creation and implementation of its façade improvement program which provides incentives to business owners to renovate their building facades, and on a study for the adaptive reuse of Oakwood Elementary School which ceased as an educational facility in 1996 and fell into disrepair. ETCDC developed a public involvement process to assist in the study and gather input from the neighborhood regarding the old school's redevelopment. The school has since been redeveloped into an assisted living facility. Currently, ETCDC is partnering with the City and the Broadway Corridor Task Force (Broadway is adjacent to our subject property) to consider ways to improve the corridor for businesses as well as adjacent neighborhoods. The ETCDC hosted a design

charrette in the neighborhood in November 2015 to gather input from all interested local businesses, residents and organizations, and will continue to work with the City as it moves forward with cleanup and redevelopment of blighted properties.

St. John's Lutheran Church is a historic Lutheran church located on Broadway. Individuals from the Church's Outreach Team volunteer their time to support several local programs including: Habitat for Humanity – church members provide labor and funding to build a house every other year. Family Promise of Knoxville and Knox Area Rescue Ministries - St. John's sends a team of volunteers to cook and serve meals to the poor and homeless families. The Senior Nutrition "Mobile Meals" Program - St. John's volunteers serve two of the routes within our target neighborhood and also check on the meal recipients, reporting any health or safety concerns to the Knoxville-Knox County Community Action Committee Office on Aging for follow-up. KIDS HOPE USA – trained St. John's volunteers develop mentor relationships with at-risk public school children spending one hour a week with carefully matched students at an elementary school in the target neighborhood. St. John's Lutheran Church provided meeting space at no charge to the City of Knoxville for quarterly public meetings held throughout the duration of the Downtown North Brownfields Assessment and will make its facility similarly available for this project.

Task 2 will primarily be conducted by: the City of Knoxville's Office of Redevelopment.

TASK 3 BROWNFIELDS CLEANUP PLANNING, IMPLEMENTATION AND COMPLETION

This section describes the activities needed to clean up the Former McClung Warehouses at 401, 420, 501, 505, 512, 517, 518, 519, 523, 524, and 525 W. Jackson Avenue. The City of Knoxville notes that the Programmatic Terms & Conditions attached to this grant highlight 35% of funds must be expended by 18 months.

A. Site Characterization

EPA Region 4 with its Targeted Brownfield Assessment Grant and consultants has conducted a Phase II Environmental Site Assessment including a survey of asbestos containing material for the Former McClung Warehouses sites, a copy of that report is provided on CD as an attachment to this document (see CD Attachments 3).

1. **Quality Assurance Project Plans (QAPPs):** The site has an approved QAPP consistent with EPA Region 4's *Interim Generic & Site Specific Quality Assurance Project Plan Guidance for Brownfield Site Assessments and/or Cleanups*. A copy of the QAPP is provided on CD as an attachment to this document (see CD Attachments 2). The City of Knoxville understands that costs incurred for sampling performed without an approved QAPP are not eligible for reimbursement. The City also notes that different requirements apply for lead based paint and asbestos assessment. Any additional sampling needed for further site characterization or aid in remedy selection will meet the requirements of the QAPP.
2. **Health & Safety Plans:** The City, in conjunction with the Consultant(s), will also prepare and follow an OSHA-compliant Health and Safety Plan (HASP), and a copy will be in the Cooperative Agreement file. These will also be submitted to the EPA and the State for the Project file. EPA approval of the HASP is not required.

B. Cleanup Planning

The City of Knoxville will conduct cleanup planning activities to evaluate and select appropriate remediation strategies. The City of Knoxville has prepared a draft ABCA for the Former McClung Warehouse Sites – a copy of that report is included on CD as an attachment to this document (see CD Attachment 1). The ABCA was presented to the public as part of the grant application process and highlighted the alternatives discussed in Section 1.2 Project Description, subset D. Proposed Cleanup (above). The City acknowledges all draft ABCAs submitted in draft form as part of the cleanup grant proposal must be made final. It is EPA's intent that documents generated to meet the state's VCP requirements can serve to meet EPA's needs provided they cover the same elements and include the necessary information below.

The final ABCA or its equivalent will include:

1. Information about the site and contamination issues (i.e. exposure pathways, identification of contaminants, contaminant levels and contaminant sources, source volume or other estimates as needed to compare relative costs between remedies);
2. Identification of the contaminants of concern;
3. A summary of cleanup/protectiveness standards, applicable laws and regulations;
4. A description of the alternatives considered;
5. Assessment of the effectiveness, implementability, and the cost of each alternative. As part of the evaluation of effectiveness, discuss whether/how each alternative would achieve cleanup standards, would comply with applicable laws and regulations, and the resilience of each alternative considering reasonably foreseeable changing climate conditions (e.g., sea level rise, increased frequency and intensity of flooding and/or extreme weather events, etc.);
6. A comparative analysis of the alternatives, including no action. For cleanup of brownfield petroleum-only sites, an analysis of cleanup alternatives must consider a range of proven cleanup methods;
7. A consideration of each alternatives ability to reduce greenhouse gas discharges, reduce energy use or employ alternative energy sources, reduce volume of wastewater generated/disposed, reduce volume of materials taken to landfills, and recycle and re-use materials generated during the cleanup process to the maximum extent practicable; and,
8. The selected or proposed alternative.

Institutional controls (ICs) are administrative or legal mechanisms that help minimize the potential for human exposure to contamination or protect the integrity of a remedy.

While it is EPA's desire to see every site cleaned up to a level that requires no further action, for some sites it may not be practical. Several layers of mechanisms are often needed to achieve an institutional control objective. Zoning changes, easements, deed restrictions, etc. generally require both State and local mechanisms and approvals. Property transfers and/or property development often cannot occur until these controls are in place. The City of Knoxville will work closely with the State for the approvals.

C. Implementation of Cleanup Activities

The City of Knoxville and its contractor plan to implement the selected alternative of the Former McClung Warehouses Site by hiring a qualified firm to remove and dispose of the contaminated materials, asbestos and install engineering controls such as caps and barriers. For Surface and Subsurface Soils, cleanup will involve localized removal of contaminated materials from some portions of the site. Based on EPA's removal criteria for residential properties, the contaminated soil would be removed and appropriately disposed as Special Waste within a Class I Landfill. The excavated areas would then be backfilled with clean material. For Asbestos-containing Materials, cleanup will involve removal and disposal of these materials by a licensed, qualified asbestos contractor. For Vapor Intrusion, additional vapor intrusion assessment may be warranted based on the passive soil gas survey findings, especially if the end use of the property is residential.

This will involve collecting ambient air and soil gas samples. If samples exceed the calculated vapor intrusion screening level for residential air, source soils as determined through additional characterization will be excavated and transported for disposal at approved facilities, and replaced with clean backfill. Soil removed from any parts of the site would be adequately characterized and, based on the findings, handled in accordance with local, state and federal regulations. Prior to any site excavation, there will be a TDEC-approved Soil Management Plan (SMP) for characterization, handling and disposal of excavated materials. The City of Knoxville will protect all nearby populations, including sensitive populations in the targeted community from contaminants during the cleanup work through this grant; implementing procedures necessary to mitigate any potential exposure from the contamination.

1. Federal Cross-Cutting Requirements

The City of Knoxville will comply with Federal cross-cutting requirements. These requirements include but are not limited to OSHA Worker Health & Safety Standard 29 CFR 1910.120; National Historic Preservation Act; Endangered Species Act; and Permits required by Section 404 of the Clean Water Act; Executive Order 11246, Equal Employment Opportunity, and implementing regulations at 41 CFR 60-4; Contract Work Hours and Safety Standards Act, as amended (40 USC § 327-333) the Anti-Kickback Act (40 USC § 276c) and Section 504 of the Rehabilitation Act of 1973 as implemented by Executive Orders 11914 and 11250.

2. Other Applicable Federal and State Laws

The City of Knoxville acknowledges cleanups performed in whole or in part with EPA funds must also comply with all applicable federal and state laws, including the Davis-Bacon Act which requires payment of the prevailing wage rate for construction projects, including cleanup activities. The Davis-Bacon Act also requires reporting, self-monitoring by the City of Knoxville, and other requirements. The Davis-Bacon Act applies to all construction, alteration, and repair contracts and sub-contracts awarded with EPA grant funds. Recent and applicable wage rates from the U.S. Department of Labor must be incorporated into construction, alteration, and repair solicitation and contracts.

The City of Knoxville will consult the U.S. Department of Labor website to ensure all responsibilities are understood: <https://www.dol.gov/whd/programs/dbra/>.

3. Greener Cleanups

The City of Knoxville and its contractor will work to ensure a greener cleanup. As noted, assessing and cleaning up contaminated lands protects human health and the environment and enables communities to pursue future beneficial reuse of these properties. Cleaning up sites can be viewed as “green” from the perspective of the cleanup improving environmental and public health conditions. The City acknowledges that cleanup activities use energy, water and other resources to achieve cleanup objectives and will work to alleviate the environmental footprint of cleanup actions. The City and its contractor will utilize the resource at <https://www.epa.gov/greenercleanups> for greener cleanup recommendations.

4. Completion of Cleanup Activities

The City of Knoxville will ensure that the successful completion of the cleanup is properly documented. This must be done through a final report or letter from a qualified environmental professional or other documentation provided by a state or tribe that shows the cleanup is complete. This documentation will be included as part of the administrative record. In the event of an incomplete cleanup, the City of Knoxville shall ensure that the site is secure and notify the appropriate state agency and the EPA Project Officer to ensure an orderly transition should additional activities become necessary.

Task 3 will primarily be conducted by: The City of Knoxville’s Office of Redevelopment in conjunction with the selected, qualified contractor.

Modify with other eligible work plan tasks as needed, especially those identified in your cleanup grant proposal.

3.1 SCHEDULE

Attachment 2 in this document provides a detailed Project Schedule. Many tasks run concurrently. For that reason, a Gantt chart will be created by the City in consultation with the Consultant(s) to help steer the project. Sufficient time for management or governing board approvals that may be necessary at critical points in the project is included in the schedule. Schedule development will be discussed with the EPA Project Officer.

Attachment 1 Budget Table for Work Plan Tasks

Budget Categories	Project Tasks					
	Task 1 Project Management and Reporting	Task 2 Community Involvement/ Engagement	Task 3A Additional Site Characterization	Task 3B Cleanup Planning and Design	Task 3C Cleanup Implementation	Total
(Programmatic costs only)						
Personnel						
Fringe Benefits						
Travel ¹	\$3,000					
Equipment ²						
Supplies		\$300				
Contractual ³	\$3,000	\$3,000	\$20,000	\$30,000	\$120,700	
Other – specify						
Total EPA Funding	\$6,000	\$0	\$15,000	\$20,000	\$109,000	\$150,000
Cost Share ⁴	\$0	\$3,300	\$5,000	\$10,000	\$11,700	\$30,000
Total Budget	\$6,000	\$3,300	\$20,000	\$30,000	\$120,700	\$180,000

¹ Travel to brownfields-related training conferences is an acceptable use of these grant funds.

² EPA defines equipment as items that cost \$5,000 or more with a useful life of more than one year. Items costing less than \$5,000 are considered supplies.

³ The CAR must comply with the procurement procedures contained in 2 CFR 200 and/or 1500.

⁴ If receiving a cost share waiver this can be omitted.

Attachment 2

Schedule of Activities and Deliverables

The City of Knoxville will use this format for planning grant activities, but will modifications as needed appropriate for the project. The City will consider starting procurement early and conducting community engagement activities throughout the three years. The City acknowledges that projects with at least 35% of the funds expended on eligible tasks after 18 months are well positioned to spend all funds by the end of the project period.

	Time and Actions from Notice of Selection	
Pre-Award	0 month	Notice of Selection: May 2016; Application Webinar held June 15 & 16, 2016 Grant Application submitted with Draft Work Plan and detailed schedule June 30, 2016
	0-3 months	City of Knoxville completes required grant award documents and submits to EPA EPA works with City of Knoxville to finalize draft work plan (by July 2016)
	2-4 months	City of Knoxville may conduct pre-award activities such as drafting the Community Engagement Plan and issuing consultant RFP
	3-4 months	EPA executes grant award, October 1, 2016. New Grantee Workshop in Jacksonville, FL
	Time and Actions from Award/Project Start	
Year 1	0 months	Grant award
	0-3 months	RFP for contractor procurement is finalized ACRES Training
	1-4 months	Consultant contract executed and contractor on-board Kick-off meeting held with Contractor, EPA, State and others on the Project Team Complete Community Engagement Plan Plan First Public Meeting ACRES Entry
	4 months	Quarterly Report 1 is due 30 days after 1 st quarter ends Reimbursement Request Submitted
	4 – 8 months	Develop QAPP and submit to EPA/State for approval Conduct Limited Site Characterization Host Public Meeting
	7 – 8 months	Finalize ABCA Provide Public with Opportunity to Review ABCA
	7 months	Quarterly Report 2 is due 30 days after 2 nd quarter ends Reimbursement Request Submitted
	10 months	Quarterly Report 3 is due 30 days after 3 rd quarter ends Reimbursement Request Submitted.
	8-12 months	Initiate Cleanup
	12 months	Submit Federal Financial Report (SF425)
	13 months	Quarterly Report 4 is due 30 days after 4 th quarter ends Reimbursement Request Submitted Disadvantaged Business Enterprise (DBE) due with this quarterly report
Year 2	16 months	Quarterly Report 5 is due 30 days after 5 th quarter ends Reimbursement Request Submitted
	18 months	Half of 3 year grant is complete. Check-in with EPA/State for any modifications to work plan budget or scope of work. Make sure accomplishments to date are in ACRES. 35% of funds should be expended by this time.
	19 months	Quarterly Report 6 is due 30 days after 6 th quarter ends Reimbursement Request Submitted DBE due with this quarterly report

	22 months	Quarterly Report 7 is due 30 days after 7 th quarter ends Reimbursement Request Submitted
Ongoing		Participate in regularly scheduled planning/status calls with Project Team Conduct and build on Community Engagement activities Identify financial commitments, developers, etc. Continue to leverage dollars
Year 3 and closeout	25 months	Quarterly Report 8 is due 30 days after 8 th quarter ends Reimbursement Request Submitted. DBE due with this quarterly report
	28 months	Quarterly Report 9 is due 30 days after 9 th quarter ends Reimbursement Request Submitted
	30 months	6 months remain on the grant; Start winding down activities in preparation for grant closing
	31 months	Quarterly Report 10 is due 30 days after 10 th quarter ends Reimbursement Request Submitted.
	34 months	Quarterly Report 11 is due 30 days after 11 th quarter ends Reimbursement Request Submitted
	Prior to close-out	Make sure all work has been entered in ACRES; Prepare and Submit final Cleanup Report. Enter cleanup completion in ACRES if an NFA letter or equivalent has been issued.
	35 month	Reconcile accounts; collect remaining invoices for submission; gather deliverables for final close-out report
	36 months	Grant project/budget period closes; no further costs can be incurred after final date
	37 months	Quarterly Report 12 is due 30 days after 12 th quarter ends; May serve as Final Close-out Report if all project documentation is complete and ready. If so, then it is due 90 days after project period ends. DBE report due with this quarterly report.
	37 – 39 months	Submit final request for reimbursement with Final FFR (Standard Form 425) All Close-out documentation and final deliverables due within 90 days project end date.

- Quarterly reports are due 30 days after the end of each quarter: Jan 30, April 30, July 30 and Oct 30.
- ACRES data should be entered with each project phase and after significant work completion.
- Draw down expended funds at least quarterly or more frequently as expenditures warrant

Attachment 3 Example Quarterly Report Template

The City of Knoxville will use this format to provide the EPA Project Officer with quarterly reports. The City will include property names and other details in the appropriate task description of accomplishments. The City will be descriptive with grant reporting.

CAR Name: City of Knoxville Cooperative Agreement Number: TBD Date Quarterly Report Submitted: Month 30 Quarterly Report Number: TBD			
Task 1: Project Management and Reporting			
Subtask / Activity	Deliverable/ Outputs / Milestone	Target Date^a	Lead Party
A. Assemble internal team, including technical, financial, managerial. Establish project schedule.	Team established, agreement written. Schedule developed.	Qtr. 1	PM, team
B. Prepare bid documents for procuring contractor support.	Bid package complete.	Qtr. 1	City Engineer
C. Select contractor.	Contractor selected	Qtr. 2	PM
D. Kick-off meeting held.	Kick-off meeting complete	Qtr. 2	Team
E. Grant Project Reporting	Quarterly Progress Reports (10 days after end of qtr.)		PM
a. Quarterly Progress Reports to EPA & State	Final Report (90 days after grant)		PM, team
b. Final Grant Reporting			PM
F. Attend New Grantee Workshop			PM
G. Attend Local, State and National Brownfields Conferences			
Cost Estimates for Task 1:			
Actual Accomplishments and Progress Reporting for <i>(fill in the blank)</i> Reporting Period: <i>Use this area to provide a description of the progress made during the reporting period for this task. Be detailed and descriptive.</i>			
Task 2: Community Involvement/Engagement			
Subtask / Activity	Deliverable/ Outputs / Milestone	Target Date	Lead Party
A. Setup Information Repository for Public Information	Files made publicly available.	Qtr. 1	PM, team
B. Community Engagement Plan Developed	Assessment complete, part of Plan.	Qtr. 1	Team
C. Media, Electronic & Social Networking Systems Updated	Plan complete.	Qtr. 1	Contractor

D. Meetings to describe project/schedule and/or updates Kick-off meeting Update after final Phase II ESA Draft and Final ABCA Mobilization	Radio, TV, flyers newspaper, etc. Meetings conducted.	Every Qtr. Qtrs.: 2, 4, 8, 10	Team PM, Team
Cost Estimates for Task 2: (include cost estimates here)			
Actual Accomplishments and Progress Reporting for <i>(fill in the blank)</i> period: <i>Use this area to provide a description of the progress made during the reporting period for this task. Be detailed and descriptive.</i>			
Task 3A: Additional Site Characterization			
Subtask / Activity	Deliverable/ Outputs / Milestone	Target Date	Lead Party
A. Final Phase II ESA Generic QAPP Site Specific QAPPs			
Cost Estimates for Task 3: (include cost estimates here)			
Actual Accomplishments and Progress Reporting for <i>(fill in the blank)</i> period: <i>Use this area to provide a description of the progress made during the reporting period for this task. Be detailed and descriptive.</i>			
Task 3B: Cleanup Planning			
Subtask / Activity	Deliverable/ Output s / Milestone	Target Date	Lead Party
A. Finalize ABCA			
Cost Estimates for Task 4: (include cost estimates here)			
Actual Accomplishments and Progress Reporting for <i>(fill in the blank)</i> period: <i>Use this area to provide a description of the progress made during the reporting period for this task. Be detailed and descriptive.</i>			

Task 3C: Cleanup Implementation			
Subtask / Activity	Deliverable/ Outputs / Milestone	Target Date	Lead Party
A. Mobilization B. Conduct Cleanup C. Prepare final Cleanup Report			
Cost Estimates for Task 4: (include cost estimates here)			
Actual Accomplishments and Progress Reporting for <i>(fill in the blank)</i> period: <i>Use this area to provide a description of the progress made during the reporting period for this task. Be detailed and descriptive.</i>			

Quarterly Expenditure Reporting

Budget Categories	Costs Incurred This Quarter						
	Task 1	Task 2	Task 3A	Task 3B	Task 3C		
	Project Management and Reporting	Community Involvement/ Engagement	Additional Site Characterization	Cleanup Planning	Cleanup Implementation	Total Spent this Quarter	Remaining Budget
Personnel							
Fringe Benefits							
Travel							
Equipment							
Supplies							
Contractual							
Other (describe in Report)							
Total Federal Funding							
Cost Share							
Total							